

DUDUKALENKO, V. V., CHERNYSHEV, V. I., Tr. NII mat. Voronezh. un-ta, 1970, vyp. 2, pp 100-108

where ϕ is the function of invariants of the tensor $(\epsilon_{ij}^p + \epsilon_{ij}^e)$. μ is the function of invariants of the tensor ϵ_{ij}^p . $f(T_{ij})=0$ is the yield condition, ψ is the potential of stresses. The properties of the constructed model are briefly considered. Then, disregarding elastic deformations, the authors consider the conditions of neutral loading and unloading. In conclusion, by way of example, an annular plate is considered which is hinged around the outside edge and uniformly loaded by a transverse load around the inner edge. The plate material follows the constructed model. Elastic deformations are disregarded, it is assumed that the value of μ is constant and $S_{ij} = g\epsilon_{ij}$, where g is also taken as constant. V. S. Namestnikov.

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1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--EFFECTS OF THE ADDITION OF AN EMULSIFIER AND MONOMER IN THE COURSE
OF THE EMULSION POLYMERIZATION OF STYRENE IN THE PRESENCE OF NONIONIC
AUTHOR--(04)--ZUIKOV, A.V., MEDVEDEV, S.S., DUDUKIN, V.V., OTRUSHKO, G.V.
COUNTRY OF INFO--USSR
SOURCE--VYSOKOMOL. SOEDIN., SER. A 1970, 12(2) 376-81
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, CHEMISTRY
TOPIC TAGS--EMULSION POLYMERIZATION, STYRENE, POLYMERIZATION KINETICS,
BENZOYL PEROXIDE, NITRILE, LATEX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0323 STEP NO--UR/0459/70/012/002/0376/0381
CIPC ACCESSION NO--AP0111517
UNCLASSIFIED

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CIRC ACCESSION NO--AP0111517
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--02OCT70

OF PHCH:CH SUB2, INITIATED BY BZ SUB2 O SUB2 OR AZOBISISOBUTYRONITRILE,
WAS STUDIED AT 60 PLUS OR MINUS 0.1 DEGREES IN THE PRESENCE OF PROXANDL
228 EMULSIFIER, HOICH SUB2 CH SUB2 O) SUBX(CH SUB2 CHMEDISUBVICH SUB2 CH
SUB2 OIH (1). THE POLYMN. OCCURRED IN LATEX PARTICLES WHICH CONTAINED
ALL OF THE MONOMER INTRODUCED INTO THE SYSTEM. FROM THE BEGINNING OF
THE POLYMN., THE LATEX PARTICLES WERE COVERED WITH AN ADSORBED LAYER OF
I WHICH INCREASED THEIR STABILITY AND DETD. THE POLYMN. KINETICS.

UNCLASSIFIED

USSR

UDC: 621.317.335.3

PASECHNIK, V. F., DUDUSH, V. D.

"Polarization Methods of Measuring the Electromagnetic Parameters of Substances in the Millimeter Wave Band"

Dokl. Vses. nauchno-tekhn. konferentsii po radiotekhn. izmereniyam. T. 1 (Reports of the All-Union Scientific and Technical Conference on Radio Engineering Measurements. Vol. 1), Novosibirsk, 1970, pp 144-145 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1A369)

Translation: The authors discuss a method of measuring the complex permittivity of materials in the millimeter wave band. The procedure is based on measuring the parameters of the polarization ellipse of a reflected signal. Formulas for determining permittivity are given as well as a block diagram of the measurement installation. E. L.

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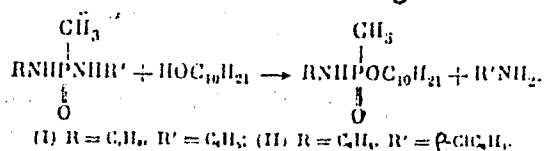
UDC 547.26'118

ZAVLIN, P. M., FEDOSEYEVA, A. S., DUDYAK, N. K., and STUL'NIKOVA, N. A.,
Leningrad Institute of Motion Picture Engineers

"Nucleophilic Substitution in the Presence of Unsymmetric Diamides of
Methylphosphonic Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, p 2347

Abstract: Heating of the N-butyl-N'-phenyldiamide (I) and the N-phenyl-N'-
-p-chlorophenyldiamide (II) of methylphosphonic acid with decyl alcohol at
220-260°C yielded aniline (I) and p-chloraniline, and the corresponding
amidoester of methylphosphonic acid according to



The reaction of (I) with decyl alcohol yielded aniline (n_D^{20} 1.5840) and the
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ZAVLIN, P. M., et al., Zhurnal Obshchey Khimii, Vol 42 (104), Vyp 10, 1972, p 2347

butylamide of decyl methylphosphonate, b.p. 235°C (8 mm), n_D^{20} 1.5080. The reaction of (II) with decyl alcohol yielded p-chloraniline, b.p. 70°C , and the decyl ester anilide of methylphosphonic acid, b. p. 189°C (3 mm). The structure of the initial and end products was verified by IR spectra.

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BERKINBLIT, M. B., DUDZYAVICHYUS, I., KOVALEV, S. A., FOMIN, S. V., KHOLOPOV, A. V., and CHAYLAKHYAN, L. M., Institute of Problems of Information Transmission, Academy of Sciences USSR, Moscow

"Study of the Formation of a Local Response in a Nonuniform Membrane Corresponding to the Hodgkin-Huxley Model"

Moscow, Biofizika, Vol 15, No 5, Sep/Oct 70, pp 873-880

Abstract: The electric response of a model which consists of two membranes regions (one active and the other shunting) connected in parallel is considered. This model imitates biological objects containing membrane regions with a different threshold (e. g., neurons), as well as conditions of nonuniform membrane polarization. The transition is gradual in actual membranes, however. Shifts in the amplitude and duration of the reaction that develops, in the stimulation threshold, and in ionic currents as a result of shifts in the ratio of the excitable to nonexcitable area of the membrane are discussed. On the basis of the model, it is shown that the nonuniformity of the membrane considerably increases the range of strengths of the stimulating current at which a local response develops. The relations obtained
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explain some characteristics of the electric reactions of smooth muscles and of myocardial tissue.

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BERKINBLIT, M. B., VVEDENSKAYA, N. D., DUDZYAVICHEUS, I., KOVALEV, S. A., FOMIN, S. V., KHOLOPOV, A. V., and CHAYLAKHYAN, L. M. Institute of Problems of Information Transmission, Academy of Sciences USSR, Moscow and Moscow State University imeni M. V. Lomonosov

"Study of Propagation of Excitation in Purkinje Fibers of the Heart Studied in a Mathematical Model"

Moscow, Biofizika, Vol 15, No 3, May/Jun 70, pp 521-527

Abstract: Propagation of the action potential in a uniform Purkinje fiber was modeled on a computer using Noble and McAlister models. The velocity of impulse propagation in the Noble model is shown to be five times lower, and in the McAlister model two times lower, than that measured experimentally. This discrepancy can be explained by the underestimated value of the rate of growth of the forward front of the action potential in the models used, since the calculations showed that the velocity of the impulse propagation to a first approximation linearly depends upon the growth of velocity of the forward front. The action potential in the region of fiber expansion was modeled on the Noble Model. It passes through larger expansions than the impulse in the Hodgkin-Huxley model, apparently because of the more extended time of the heart impulse. It is also shown that geometric nonuniformity can provide a

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BERKINBLIT, M. B., et al., Biofizika, Vol 15, No 3, May/Jun 70, pp 521-527

temporary delay in impulse propagation, which comprises a considerable part of atrioventricular delay. It is suggested that the experimentally observed "hollow" and "hump" on the background of the plateau of cardiac action potentials are caused by the electrotonic "reflection" of the potential from geometric nonhomogeneities, since the potentials of such a shape are reproduced in model calculations.

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--INFLUENCE OF MIXING ON THE EFFECTIVENESS OF LIQUID ORGANIC COMPOUND
SEPARATION OF ZONE MELTING -U-
AUTHOR--(03)--AVRAMENKO, N.V., DUGACHEVA, G.M., ANIKIN, A.G.
COUNTRY OF INFO--USSR
SOURCE--ZH. FIZ. KHIM. 1970, 44(2), 356-9
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--ZONE MELTING, ORGANIC CHEMISTRY, CHEMICAL COMPOUND, BENZENE,
HEPTANE, MATERIAL MIXING
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0446 STEP NO--UR/0076/70/044/002/0356/0359
CIRC ACCESSION NO--AP0121120
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0121120

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SEPNs. OF LIQ. ORG. COMPOs. BY ZONE M. AT ROOM TEMP. WITH MIXING OF THE LIQ. ZONE WERE MADE USING THE APP. EMPLOYED FOR ZONE M. OF LOW M. COMPOs. MECH. MIXING OF THE COMPOs. WAS THE SAME AS THAT USED WITH ZONE MELTING OF SOLID ORG. COMPOs., WITH MIXING OF THE LIQ. ZONE DURING ZONE M. OF TOLUENE REDUCED THE QUANTITY OF IMPURITIES, COMPARED WITH RESULTS WHEN THE LIQ. ZONE WAS NOT MIXED. ZONE M. OF BENZENE-N-HEPTANE WAS CARRIED OUT TO DET. THE OPTIMAL CONDITIONS OF SEPN. THE DEPENDENCE OF THE CONCn. OF IMPURITIES IN BENZENE ON THE INTENSITY OF MIXING IN THE LIQ. ZONE WAS DISCUSSED. THE CORRESPONDING DEPENDENCE CURVE SHOWS A MAX. FURTHER INCREASING OF INTENSITY OF MIXING LEADS TO THE FORMATION OF HOMOGENEOUS CRYSTALS (I.E., A HIGHER PROBABILITY OF CAPTURE OF THE IMPURITIES). THE RESULTS WERE CONFIRMED BY CHROMATOGRAPHIC AND CRYOSCOPIC ANAL. FACILITY: KHIM. FAK., MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 536.2.082

DUGANOV, G. V., CHISTYAKOV, V. L., STREZHEKUROV, E. Ye.

"New TPM-1 Heat-Physical Instrument"

Priborostroyeniye. Resp. Mezhd. Nauch.-Tekhn. Sb. [Instrument Building. Republic Interdepartmental Scientific and Technical Collection], 1972, No 13, pp 17-21 (Translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 3, 1973, Abstract No 3.32.847), by V. S. K.

Translation: A report is presented on the TPM device, developed at the Sevastopol' Instrument Building Institute, designed for determination of a combination of heat-physical characteristics of materials, including metals, by an express method under production conditions. The sensor of the device is made of Teflon with a low coefficient of linear expansion and a low heat conductivity coefficient. The indicator of the measurement circuit is a type ViV 250 μ a microammeter. The device is supplied by a "Krona" battery with a total voltage of 9 v; the heater of the thermal sensor is supplied by an individual battery of 5.6 v. The TPM-1 device, properly calibrated, can detect the presence of certain inclusions or cavities in metals during rolling of titanium and alloy plates, and also during assembly or installation of metal structures. 1 figure, 2 biblio. refs.

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USSR

UDC 621.396.6:621.318

DUGAR-ZHABON, K. D.

"On Pulse Magnetic Reversal in Ferrites With Square Hysteresis Loop"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Technology. Scientific and Technical Collection. Ferrite Technology), 1970, vyp. 1 (23), pp 64-70 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V445)

Translation: The author considers some problems of pulse magnetic reversal in ferrites with rectangular hysteresis loop, and the relationship between the coefficient of magnetic reversal S_y and the grain size and chemical composition of the ferrite. It is shown on the basis of the results and analysis of the magnetic reversal curve for grade VT ferrites that magnetic reversal in ferrites with square hysteresis loop in fields of up to (5-10) H_T takes place by displacement of 180° domain boundaries. Resumé.

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USSR

UDC 621.396.69:621.318

DUGAR-ZHABON, K. D.

"On Rectangularity of the Hysteresis Loop of Lithium Ferrite"

Elektron. tekhnika. Nauchno-tekhn. sb. Ferrit. tekhn. (Electronic Technology. Scientific and Technical Collection. Ferrite Technology), 1970, vyp. 1 (23), pp 58-63 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12V443)

Translation: It is shown on the basis of the effect which heat treatment conditions have on the properties of lithium ferrite $\text{Li}_{0.5}\text{Fe}_2\text{O}_4$ with 4 wt.% Bi_2O_3 added that the nonmagnetic LiFeO_2 phase formed during high-temperature annealing in a quantity which depends on temperature has an unfavorable effect on the rectangularity of the hysteresis loop when the ferrites are annealed at temperatures above 1000°C in air. It is shown that the process of ordering of lithium cations at octahedral sites of the crystal lattice has no appreciable effect on the parameters of the static rectangular hysteresis loop of the given lithium ferrite. Bibliography of 8 titles. Resumé.

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1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--MODELS OF PULSED MAGNETIC REVERSAL OF FERRITES WITH RECTANGULAR
HYSTERESIS LOOPS -U-
AUTHOR--DUGARZHABEN, K.D.
COUNTRY OF INFO--USSR
SOURCE--ZH. TEKH. FIZ. 1970, 40(4), 862-7
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--FERRITE, HYSTERESIS LOOP, MAGNETIZATION, POROSITY, GRAIN SIZE,
MATHEMATIC MODEL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/1178 STEP NO--UR/0057/70/040/004/0862/0867
CIRC ACCESSION NO--AP0124832
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124832

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MODELS FOR PULSED MAGNETIC REVERSAL ARE DISCUSSED BRIEFLY FOR FERRITES WITH RECTANGULAR HYSTERESIS LOOPS. THE DISTRIBUTION OF MACRODEFECTS (PORES) HAS A MARKED INFLUENCE ON THE MAGNETIC REVERSAL. THE RELATIONS ARE GIVEN BETWEEN THE MAGNETIC REVERSAL COEFF., S_{SUBW} , AND SUCH PARAMETERS AS THE COMPN. AND GRAIN SIZE OF THE MATERIAL. THIS DEPENDENCE IS RELATIVELY WEAK FOR FERRITES WITH RECTANGULAR HYSTERESIS LOOPS, WHICH IS ATTRIBUTED TO THE DISPLACEMENT OF THE 180DEGREES DOMAIN BOUNDARIES.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THE EFFECT OF SOME ORGANOPHOSPHORUS COMPOUNDS USED IN AGRICULTURE
ON THE ORGAN OF VISION -U-
AUTHOR--DUGELNYY, G.A. *D*
COUNTRY OF INFO--USSR
SOURCE--VESTNIK OFTAL'MOLOGII, 1970, NR 2, PP 72-75
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ORGANIC PHOSPHOROUS INSECTICIDE, RABBIT, EYE/(U)METHYLSISTOX
INSECTICIDE, (U)INTRATHION INSECTICIDE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1990/0724 STEP NO--UR/0357/70/000/002/0072/0075
CIRC ACCESSION NO--AP0108930
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108930

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPERIMENTS ON RABBITS THE INFLUENCE OF TWO ORGANOPHOSPHORUS COMPOUNDS (INSECTICIDES), METHYLSISTOX AND INTRATHION, EMPLOYED IN AGRUCULTURE, ON THE ORGAN OF VISION WAS STUDIED. SUBJECT TO OBSERVATION WERE THE GENERAL CONDITION OF THE ANIMALS AND CHANGES ON THE LEVEL OF THE EYELIDS, CONJUNCTIVA AND EYEBALL, WITH CONCURRENT TONOMETRY, ELASTOTONOMETRY, MEASUREMENT OF THE PUPILS' SIZE, GONIOSCOPY, TONOGRAPHY. IT WAS FOUND THAT ON INSTILLATION OF THE COMPOUNDS' EMULSION INTO THE EYE THERE MAY EMERGE SYMPTOMS INDICATIVE OF GENERAL POISONING AND SIGNS OF BURN INJURIES OF THE EYES. INCONSISTENT AND NONPERSISTENT BIPHASIC CHANGES IN THE INTEROCULAR TENSION, CONTRACTION OF THE PUPIL, NARROWING OF THE ANTERIOR CHAMBER ANGLE, SLOWED DOWN OUTFLOW AND DIMINISHED SECRETION OF THE CHAMBER FLUID WERE OBSERVED. THE INTESITY OF THESE CHANGES DEPENDS UPON THE CONCENTRATION OF THE COMPOUNDS.

UNCLASSIFIED

USSR

UDC 617.7-099:615.203.7

DUGEL'NYY, G. A., Chair of Eye Diseases, Ternopol' Medical Institute

"The Effect of Some Organophosphorus Compounds Used in Agriculture on the Eyes"

Moscow, Vestnik Ophthalmologii, No 2, 1970, pp 72-75

Abstract: Instillation of the widely used systemic acaricides and insecticides methylcystox (methylmercaptophos) and intratension (I-61) into the right eye of rabbits produced both the symptoms of general poisoning observed with other modes of administering organophosphorus compounds (hypersalivation, intensification of bronchial secretion, fibrillar twitching of the facial muscles, convulsions, etc.) and a variety of specific eye disturbances. Specific eye disturbances included congestion of the conjunctival blood vessel, chemosis, diffuse opacity of the cornea, hemorrhages into the retina, edema of the optic disk, elevation and then lowering of intraocular pressure (sometimes in the left eye as well), miosis, narrowing of the angle of the anterior chamber, decrease in the per minute volume of aqueous humor, and lowering of blood cholinesterase activity 23-50% below the original level. The magnitude of the shifts varied with the concentration of the compounds and the number of applications.

USSR

UDC 621.396.677:523.164

DUGIN, N.A., TURCHIN, V.I., TSEYTLIN, N.M., SHARONOV, G.A.

"On The Use Of A Two-Element Interferometer With Fixed Base For Obtaining A Knife-Edge Directivity Diagram"

Radiotekh. i elektronika (Radio Engineering And Electronics), 1971, 16, No 6, pp 918-926 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9817)

Translation: The singularities are considered of the synthesis of the linear antenna of a two-element interferometer with a fixed base during rotation of the earth. The conditions during which such synthesis can take place are obtained. The possible directional diagrams for such a system are calculated and certain requirements placed on the receiving apparatus of the interferometer are determined. 7 ill. 8 ref. Author's abstract.

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USSR

UDC: 621.936.677.012.12

DUGIN, N. A., TURCHIN, V. I., TSEYTLIN, N. M., SHARONOV, G. A.

"On Using a Two-Element Interferometer With Fixed Base to Produce a Knife Radiation Pattern"

Moscow, Radiotekhnika i Elektronika, Vol. 16, No 6, Jun 71, pp 918-928

Abstract: The authors consider some peculiarities and parameters of an equivalent antenna with a "knife" radiation pattern synthesized from a two-element interferometer with a base which remains fixed as the earth rotates for the case of observation of sources with "optimum" inclinations. Some requirements of the main parameters of the receiver are considered -- the width of the passband, selection of the time constant, use of a phase shifter, phase stability. The results of the analysis show that when observational data are appropriately processed, the proposed two-antenna interferometer system can give a "finger" radiation pattern with low side-lobe level at the expense of reduced sensitivity.

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USSR

UDC 621.396.677.4.012.12

DUGIN, N. A., TURCHIN, V. I., SHARONOV, G. A.

"On the Radiation Pattern of Ring Antenna Arrays"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1152-1157

Abstract: The authors examine radiation patterns of synthesized equidistant and nonequidistant antenna arrays with different numbers of rings realized by aperture synthesis utilizing the rotation of the earth. The results of computer calculations are presented for radiation patterns of arrays with different configurations and numbers of rings, as well as the corresponding radiation patterns obtained by the method of optical modeling. It is noted that the method of aperture synthesis utilizing the rotation of the earth (supersynthesis) has the advantage over conventional methods of multielement synthesis that wider variation of distribution is possible with respect to the synthesized aperture, which means that a more detailed study can be made of the distribution of radio brightness with respect to sources. In conclusion the authors thank N. M. Tseytlin for constructive criticism and constant interest in the work.

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USSR

UDC 621.397.62

BELYAKOV, B. I., DUGINETS, E. N., BYSTROVA, N. I.

"A Device for Isolating Recognition Signals"

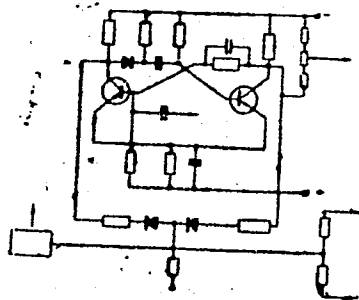
Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 7, Mar 71, Author's Certificate No 295209, Division H, filed 5 May 69, published 4 Feb 71, p 170

Translation: This Author's Certificate introduces a device for isolating a recognition signal for a color television receiver. The device contains an integrating circuit to which signals are sent from the loads of the color-difference signal video amplifiers. The device also includes a switching device such as a slave multivibrator with the load in one arm connected through a diode to the integrating network. As a distinguishing feature of the patent, the reliability of isolating recognition pulses is improved by connecting the second arm of the slave multivibrator to the integrating network through a diode which is connected the opposite way and is shunted by a variable resistor. Voltage is sent from the centertap of this resistor to the limiters of the color-difference channels in the television receiver.

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BELYAKOV, B. I., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 7, Mar 71, Author's Certificate No 295209, Division H, filed 5 May 69, published 4 Feb 71, p 170



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DUGLADZE, G. M., DARSVELIDZE, G. Sh., and TSAGAREYSHVILI, G. V., Academy of Sciences Georgian SSR, Institute of Metallurgy

"High-Temperature Internal Friction in Boron Fibers" (Presented by Academician F. N. Tavadze, Nov 23, 1972)

Tbilisi, Soobshcheniya Akademii nauk Gruzinskoy SSR, Vol 70, No 1, 1973, pp 141-143

Abstract: Results are presented of measurements of the internal friction of boron fibers (diam. $\sim 100\mu$) in the temperature interval from room temperature to 700°C . The measured fibers were produced by precipitation of boron from the gaseous phase on a heated tungsten wire (diam. $\sim 12.5\mu$). Boron fibers coated with a layer of boron carbide (thickness $\sim 5\mu$) were also measured. The investigation results are discussed by reference to diagrams showing the temperature dependence of internal friction of boron fibers and the effect of annealing at 550 and 850°C on the height of the high-temperature peak, the effect of the diameter of the specimen on the high-temperature peak, the frequency dependence

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DUGLADZE, G. M., et al., Soobshcheniya Akademii nauk Gruzinskoy SSR, Vol 70, No 1, 1973, pp 141-143

of the temperature of the maximum of the internal friction, and temperature dependences of the modulus of rigidity of pure boron and of the internal friction of pure boron fibers, fibers coated with a boron carbide layer, and fibers annealed at 650°C. The activation energy of the relaxation process, determined by the frequency shift of the peak of internal friction, was found to be 55.2 kcal/mol (2.36 eV). The viscous behavior of boundaries of small boron crystals of fibers in the strain field is assumed to be the probable mechanism causing the appearance of the 380-deg. peak of internal friction. Four figures, five bibliographic references.

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USSR

UDC: 547.574.4+547.26'118

DUGOVKIN, B. P., All-Union Scientific Research Institute of Industrial Hygiene, Kazan'

"On Synthesizing Dialkyl Ethers of p-Benzyl(naphthylamino)phosphinic Acids"

Leningrad, Zhurnal Obshchey Khimii, Vol 40 (102), No 11, Nov 70, pp 2391-2392

Abstract: The author studied condensation of dialkyl phosphites with p-arylidene- α -naphthylamines and p-arylidene- β -naphthylamines. Interaction of dimethyl and diethyl phosphites with benzylidene- α -naphthylamine produces methyl and ethyl ethers of benzyl(naphthyl- α -amino)phosphinic acid. The products of condensation with p-isopropylbenzylidene- α -naphthylamine and p-isopropylbenzylidene- β -naphthylamine are esters of p-isopropylbenzyl(naphthyl- α -amino)phosphinic and p-isopropylbenzyl(naphthyl- β -amino)phosphinic acids. Reaction of dialkyl phosphites with p-methoxybenzylidene- α -naphthylamine and p-methoxybenzylidene- β -naphthylamine yields esters of p-methoxybenzyl(naphthyl- α -amino)phosphinic and p-methoxybenzyl(naphthyl- β -amino)phosphinic acids. In contrast to these azomethines, p-dimethylaminobenzylidene- α -naphthylamine and p-dimethylaminobenzylidene- β -naphthylamine do not react with dialkyl phosphites. The resultant esters are colorless crystals which dissolve in organic solvents but are insoluble in water.

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1/3 024 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--SOLUBILITY OF CERIUM IN COPPER AND ITS EFFECT ON THE PROPERTIES OF
BRASSES -U-
AUTHOR--DUISEMALIYEV, U.K., PRESNYAKOV, A.A., SAPAROV, K.S., KOZHAMBERDIN,
N.A. *D*
COUNTRY OF INFO--USSR
SOURCE--METALLOVED. TERM. OBRAB. METAL. 1970, (2), 36-8, 43
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CERIUM CONTAINING ALLOY, COPPER ALLOY, BRASS, ALLOY
DESIGNATION, FERROCERIUM, METAL MELTING, PLASTICITY, TENSILE STRENGTH,
ELECTRIC RESISTANCE/(U)LS542 BRASS, (U)LS591 BRASS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY PEEL/FAME--1988/1342 STEP NO--UR/0129/70/000/002/0036/0043
CIRC ACCESSION NO--AP0106019
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0106019

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE CU ALLOYS CONTG. CE 0.03-0.5PERCENT WERE MELTED 3 TIMES IN AR, THE SPECIMENS OBTAINED WERE SEALED IN EVACUATED QUARTZ AMPULS AND ANNEALED AT 800DEGREES WITH SUBSEQUENT COOLING BY 100DEGREES EVERY 24 HR AND COOLED WITH A FURNACE FROM 400DEGREES. MOREOVER, THE ANNEALED ALLOYS CONTG. CE 0.05PERCENT WERE HELD IN AMPULS AT 300, 500, AND 800DEGREES FOR 3 HR AND QUENCHED FROM THESE TEMPS. IN WATER. THE LS 64-2 AND LS 59-1 BRASSES (CU 63.7 AND 58.6; PB 1.75 AND 1.05PERCENT, RESP.) CONTG. FERROCERIUM 0.05-0.5PERCENT WERE INDUCTION MELTED UNDER A CHARCOAL LAYER, HELD IN THE MOLTEN STATE FOR 10 MIN, AND CAST INTO CU WATER COOLED MOLDS. CE IS SMALLER THAN OR EQUAL TO 0.1PERCENT CAUSES THE REFINEMENT OF CU STRUCTURE AND FORMS CU-CE SOLID SOLN. FURTHER INCREASE OF ITS CONCN. LEADS TO THE RPTN. OF THE 2ND CECU SUB6 PHASE IN FORM OF POINT INCLUSIONS. THIS INDICATES THAT THE MAX. SOLY. OF CE IN CU AT ROOM TEMP. IS 0.05PERCENT. THE METALLOGRAPHIC EXAMN. OF THE SPECIMENS QUENCHED FROM 300-800DEGREES SHOWED THE MAX. SOLY. OF 0.15PERCENT AT 800DEGREES. CE IMPROVES THE MECH. PROPERTIES OF CU BUT WHILE ITS ADDNS. UP TO 0.5PERCENT INCREASE THE TENSILE STRENGTH 22.5-5.3 KG-CM PRIME2, THE PLASTICITY (ELONGATION DELTA AND REDN. IN AREA PSI) INCREASES ONLY UP TO CE 0.1PERCENT (UP TO DELTA EQUALS 68, PSI EQUALS 82.5PERCENT) AND THEN RAPIDLY FALLS TO IS SIMILIAR TO 30PERCENT (PSI AND DELTA), AT 0.5PERCENT CE. THE ELEC. RESISTANCE OF ALLOYS INCREASES FROM IS SIMILIAR TO 1.75 TIMES 10 PRIME NEGATIVE6 TO IS SIMILIAR TO 2.25 TIMES 10 PRIME NEGATIVE5 OMEGA CM AT 0.5PERCENT CE. NO EFFECT OF FERROCERIUM ON THE BRASS STRUCTURE WAS NOTICED.

UNCLASSIFIED

3/3 024

UNCLASSIFIED

PROCESSING DATE--11SEP70


CIRC ACCESSION NO--AP0106019

ABSTRACT/EXTRACT--ITS ADDNS. MARKEDLY DECREASE PSI OF THE LS 64-2 BRASS AT 20-250DEGREES (FROM SIMILIAR TO 45 TO SIMILIAR TO 37PERCENT FOR 0 AND 0.5PERCENT FERROCERIUM AT 20DEGREES), BUT BEGINNING AT 250DEGREES THE PSI VS. TEMP. CURVES FOR ALL ALLOYS ALMOST COINCIDE EXCEPT OF THAT FOR THE 0.05PERCENT FERROCERIUM ALLOY THAT AT 400, 500, 600, AND 800DEGREES SHOWS PSI EQUALS 20, 8, 45, AND 32PERCENT, RESP., COMPARED TO SIMILIAR TO 5, 0-5, 0-5 AND 5-10PERCENT FOR OTHER ALLOYS. THE RESULTS OBTAINED FOR THE LS 59-1 BRASS SHOWED THAT MOST EFFECTIVE ARE THE FERROCERIUM ADDNS. TOGETHER WITH THOSE OF NI, SI, AND MN. THIS ALLOY CONTG. FERROCERIUM 0.15, NI 0.35, SI 0.11, AND MN 0.18PERCENT SHOWED TWO PLASTICITY MAX. OF 700 AND 850DEGREES (DELTA EQUALS 190 AND 170PERCENT, RESP., AND PSI EQUALS 100PERCENT). NEVERTHELESS, ITS PLASTICITY AT 20-500DEGREES, SIMILAR TO THAT OF THE LS 59-1 BRASS WITHOUT ADDNS., IS RATHER LOW (PSI 20-40PERCENT) AND SHOWED MIN. (20PERCENT) AT 100 AND 300DEGREES.

UNCLASSIFIED

USSR

UDC 616.153

 ~~DIK A. E.~~, Institute of Microbiology imeni Avgust Kirkhenshteyn, Academy of Sciences, Latvian SSR

"The Effect of Histamine on Interferon Formation in vivo"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, No 2, 1970, pp 134-137

Abstract: Histamine levels in mice were altered by injecting the animals with either histamine dihydrochloride, a liberator of endogenous histamine 48/80 (polymer of N-methylhomoanisylamine and formaldehyde), or the antihistaminic dimedrol. The Radom strain of Newcastle disease virus was used as an interferon inducer. After administration of the above agents to healthy mice, no interferon could be found in the serum, lungs, liver, or spleen. In the control group (mice injected three times with buffered saline and Newcastle disease virus), the highest interferon titers were found in the spleen and serum, and somewhat lower titers in the lungs and liver. Triple injections of histamine dihydrochloride significantly reduced interferon titers, regardless of the time of the last injection (before or after inoculation with virus). The liberator of endogenous histamine 48/80 also reduced the interferon titers. Dimedrol produced interferon titers similar to those in controls.

1/1

1/2 015 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--TUMORS AND CYSTS IN REPTILES DUE TO FOWL SARCOMA VIRUS -U-

AUTHOR--(03)-VESKOVA, T.K., TRUBCHENINOVA, L.P., DUK, I.L.

COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 2, PP 217-220

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--TUMOR, REPTILE, VIRUS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0737

STEP NO--UR/0402/70/000/002/0217/0220

CIRC ACCESSION NO--AP0108943

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0108943

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT WAS PREVIOUSLY SHOWN IN OUR LABORATORY THAT SOME REPTILES (ERIX TATARICUS AND ESTUDO HORSFIELDI) WERE SUSCEPTIBLE TO FOWL SARCOMA VIRUS, THE SCHMILT-RUPPIN STRAIN. IN THIS STUDY, PATHOGENICITY OF FOWL SARCOMA VIRUS FOR REPTILES (NATRIX, NATRIX TESSELLATA, AGAMA SANGUINOLENTA, AGAMA ERYTHROGASTRA, VARANUS GRISEUS, EUMECES SCUTATUS, EREMIAS PERSICA, EREMIAS VELOX, GYMNOCHOTYLUS FEDTSCHENKOVII) AND AXOLOTLAS WAS INVESTIGATED. THE VIRUS WAS SHOWN TO BE ONCOGENIC NOT ONLY FOR TORTOISES AND SNAKES BUT ALSO FOR LIZARDS. INOCULATION WITH THE VIRUS OF YOUNG BOAS RESULTED IN DEVELOPMENT OF CYSTS IN THE SUBMAXILLARY AREA. SARCOMA PRODUCED BY THIS VIRUS IN AN ADULT BOA APPEARED TO CONTAIN INCOMPLETE FORM OF THE ONCOGENIC VIRUS.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--REGULARITIES IN THE STRENGTH DECREASE OF ZEOLITE PELLETS UNDER
ACTION OF WATER AND BENZENE VAPORS -U-
AUTHOR--(05)-SLEPNEVA, A.T., LIPKIND, B.A., DUKAREVICH, M.V., KONTOROVICH,
S.I., SHCHUKIN, YE.D.
COUNTRY OF INFO--USSR

SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 251-254

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ZEOLITE, WATER, BENZENE, ADSORPTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FILE/FRAME--1992/1553

STEP NO--UR/0069/70/032/002/0251/0254

CIRC ACCESSION NO--AP0112547

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112547

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE EFFECT OF MOISTENING BY WATER AND BENZENE VAPORS ON THE STRENGTH OF THE SAMPLES OF KAOLINITE CLAY AND ZEOLITES NAA AND NAX, CONTAINING 20PERCENT CLAY AS BINDING AGENT, HAS BEEN STUDIED. MOISTENING OF CLAY AND ZEOLITE SAMPLES INVOLVES A STRENGTH DECREASE ASSOCIATED WITH THE LOWERING OF THE FREE SURFACE ENERGY DURING ADSORPTION. THE SORPTION OF WATER AND BENZENE MOLECULES BY INTERNAL CAVITIES OF ZEOLITE CRYSTALS REDUCES THE STRENGTH DECREASE IF THE LIQUID CONTENT DOES NOT EXCEED 10-20PERCENT OF THE ADSORPTION CAPACITY OF ZEOLITES.

UNCLASSIFIED

USSR

UDC: 621.396.69:621.319.4

DUKAREVICH, N. Ya., NEYMAN, M. I., AFANAS'YEV, B. N.

"Type K21-7 Low-Voltage High-Frequency Sealed Capacitors Based on Thin Transparent Glass Films"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiodetali (Electronic Technology. Scientific and Technical Collection. Radio Components), 1970, vyp. 2 (19), pp 3-18 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1V290)

Translation: The paper describes the design and technique of manufacturing type K21-7 sealed high-frequency glass-film capacitors with a working temperature range of -60 to +155°C for a voltage of 50 V. The results of a study of their electrical characteristics are presented. Authors' abstract.

1/1

USSR

UDC 621.762:669.018.44(088.8)

DIKARSKIY, S. M., RODCHENKO, M. I., TARABANOV, A. S., MAKHALOV, P. N., and
DUDIN, V. V.

"Press Powder for Manufacture of Heat Resistant Products"

USSR Author's Certificate No. 252165, Filed 14/06/67, Published 24/07/70
(Translated from Referativnyy Zhurnal-Metallurgiya, No. 2, 1971, Abstract
No. 2 G457 P)

Translation: The press powder includes a carbon-containing filler, organic
binder, metal oxide easily reduced by carbon, such as TiO_2 , and impurities.

In order to increase the strength of products upon silicizing, the powder
contains a phenol formaldehyde resin as a binder, graphite as the carbon-
containing filler, with the components of the press powder in the following
weight parts: graphite 65-85, TiO_2 8-15 per 100 weight parts of the mixture,
phenol formaldehyde resin 5-20, impurity 0.5-5.

1/1

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AAO108706- DUKARSKIY S.M. UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent, 1/70

228320 DETERMINING IMPURITIES IN ELECTROCONDUCTING

MELT involves using a device comprising two similar thermo-electric electrodes (1) and (2) made in the form of thin wall cylindrical vessels from high-temperature melting material and filled with different heat-conducting materials (3) and (4), e.g. pure metals or eutectic alloys whose melting point is lower than the lowest possible temperature of the melt being examined. Electrodes immersed in the melt (6) represent differential thermo-couple. E.m.f. measured by potentiometer (5) at the instant when both materials filling the electrodes are melting will be proportional to the content of impurities in the melt.

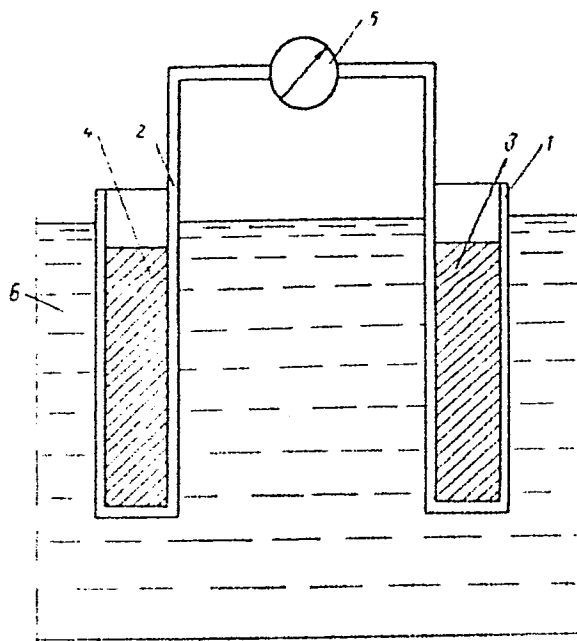
12.6.65 us 1011859/26-25. V.YU.KAGANOV & S.M. DUKARSKIY. CENTRAL LABORATORY OF AUTOMATION.(3.6.69)
Bul 31/8.10.68. Class 421. Int.Cl.G 01 n.

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19900462

AA0108706



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19900463

AA0108706-

AUTHORS: Kaganov, V. Yu.; Dukarskiy, S. M.

Tsentral'naya Laboratoriya Avtomatiki

3/17

19900464

1/2 033 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXCITATION OF THE L SUBALPHA LINE DURING STRIPPING OF FAST NEGATIVE
HYDROGEN IONS IN INERT GASES -U-
AUTHOR-(04)-ORBELI, A.L., ANDREYEV, YE.P., ANKUDINOV, V.A., DUKELSKIY,
V.M.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 6, PP 1938-1942
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HYDROGEN, ION, PARTICLE COLLISION, HELIUM, NEON, ARGON,
KRYPTON, XENON, EXCITATION CROSS SECTION, ELECTRON ENERGY LEVEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/2245

STEP NO--UR/0056/70/058/006/1938/1942

CIRC ACCESSION NO--AP0125823

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0125823

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INTENSITY OF THE LYMAN ALPHA LINE EMITTED IN COLLISIONS BETWEEN FAST HYDROGEN NEGATIVE IONS (5-40 KEV) AND HE, NE, AR, KR AND XE ATOMS IS MEASURED. THE CROSS SECTIONS FOR FORMATION OF HYDROGEN ATOMS IN THE 2S AND SP STATES AND ALSO THE TOTAL CROSS SECTIONS FOR EXCITATION OF THE N EQUALS 2 LEVEL ARE DETERMINED. IN THE ENERGY RANGE INVESTIGATED THE CROSS SECTIONS $\sigma(2P)$, $\sigma(2S)$ AND $\sigma(N \text{ EQUALS } 2)$ ARE OF THE ORDER OF 10^{-16} CM² AND $\sigma(2P)$ LARGER THAN $\sigma(2S)$. IN ALL GASES INVESTIGATED (WITH THE EXCEPTION OF HE) THE CROSS SECTIONS $\sigma(2S)$, $\sigma(2P)$ AND $\sigma(N \text{ EQUALS } 2)$ WEAKLY DEPEND ON THE H NEGATIVE ION ENERGY. FOR XE MINIMA ARE OBSERVED ON THE CROSS SECTION CURVES $\sigma(2S)$, $\sigma(2P)$ AND $\sigma(N \text{ EQUALS } 2)$ AT ENERGIES BETWEEN 12 AND 30 KEV. A POSSIBLE MECHANISM OF PRODUCTION OF EXCITED HYDROGEN ATOMS IN STRIPPING OF NEGATIVE HYDROGEN IONS AS A RESULT OF REMOVAL OF THE INNER ELECTRON FROM THE H NEGATIVE ION IS DISCUSSED. FACILITY: FIZIKO-TEKHNICHESKIY INSTITUT IM. A. F. IOFFE AN SSSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF TECHNOLOGICAL FACTORS ON THE QUALITY OF OXYGEN CONVERTER
STEEL -U-
AUTHOR--AFANASYEV, S.G., YUGOV, P.I., DUKHANIN, A.S.
COUNTRY OF INFO--USSR
SOURCE--STAL' 1970, 30(1), 17-20
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--OXYGEN CONVERSION STEEL, OXYGEN, BIBLIOGRAPHY, METALLURGIC
FURNACE, STEEL MANUFACTURE PROCESS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1987/0141 STEP NO--UR/0133/70/030/001/0017/0020
CIRC ACCESSION NO--AP0103820
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103820

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. INFLUENCE OF DIFFERENT FACTORS IS
REVIEWED BASED ON LITERATURE DATA WITH THE CONCLUSION THAT STEELS MADE
IN O BLOWN CONVERTS ARE SUPERIOR TO ANALOGOUS STEELS MADE IN OPEN
HEARTHES.

UNCLASSIFIED

USSR

UDC: 621.397.001

SUSLONOV, S. A., DUKHANIN, N. G., and SOKOLOV, Yu. P.

"Improving the Noise Immunity of Television Systems Through Phase-Amplitude Preemphasis"

Kiev, Izvestiya VUZ--Radioelektronika, Vol. 13, No. 10, pp 1240-1249

Abstract: Noting that by phase-amplitude preemphasis is meant a combination of amplitude-frequency and phase-frequency preemphasis, the author explains the process as increasing the amplitude of the signal frequency range at the transmitting end, where the spectral power density of the external noise is a maximum. To reduce the resulting overshoots, phase preemphasis is used. The process is reversed at the receiving end. The method used by the authors to carry out their analysis is to set up relationships between the frequency and time characteristics of the systems and to set up other relationships between the spectra and the time form of the complex signals. Thus, a linear reversible deformation of the time characteristics and the signal can be had by changing their amplitude and phase spectra at the transmitting end and returning to the original spectra at the receiving end. The time characteristics and signals can then be synthesized in accordance with specified criteria. Details of experimental work are also given.

1/1

USSR

UDC: 51:621.391

DUKHANIN, V. M.

"Estimate of the Resistance to Interference of K-nary Synchronizing Codes in Channels With Memory"

V sb. Regional'n. nauch.-tekhn. seminar po statist. analizu, modelir. i avtomatiz. kontrolya ob'yektov s konstruktivno-slozhn. struktury. Vyp. 2 (Regional Scientific and Technical Seminar on Statistical Analysis, Modeling and Automation in Monitoring Objects With Structurally Complex Design --collection of works. No 2), Taganrog, 1970, pp 106-111 (from RZh-Kiber-netika, No 12, Dec 71, Abstract No 12V749)

[No abstract]

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USSR

UDC 51:621.391

VASIL'YEV, S. I., DUKHANIN, V. M.

"Method of Coding of One Class of Phase Start Signals"

Teoriya i Praktika Ispol'z. Sredstv Tekhn. Kibernetiki. Kn. I [Theory and Practice of the Use of Engineering Cybernetics Equipment. Book 1 -- Collection of Works], Novosibirsk, 1970(1971), pp 40-45, (Translated from Referativnyy Zhurnal, Kibernetika, No 10, 1971, Abstract No 10 V647 by Yu. Pyatoshin).

Translation: Some k-mary codes with good autocorrelation properties are suggested for transmission of synchronization signals in communications lines.

1/1

USSR

UDC 616.936-084.4(47+57)(091)

RASHINA, M. G., DUKHANINA, N. N., and SARIKYAN, S. Ya., Institute of Medical Parasitology and Tropical Medicine imeni Ye. I. Martsinovskiy, Ministry of Health USSR, Moscow

"Achievements in the Control and Eradication of Malaria in the USSR"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 6, Nov/Dec 72, pp 658-665

Abstract: At present malaria has been practically eliminated in the USSR. Beginning with 1921, a network of institutions for the control of malaria was created. An effective measure for the control of mosquito larvae in Southern regions was breeding of Gambusia fish in bodies of water. After Gambusia had been imported from Italy in 1924 by N. P. Rukhadze, Director of the Abkhaziya Tropical Institute, they were bred on a mass scale in Georgia, Azerbaydzhan, and Armenia and also introduced in the Uzbek, Tadzhik, and Turkmenian SSR. Great attention was paid to problems pertaining to the prevention of malaria in connection with the construction of hydraulic engineering and irrigation installations as well as large shipping canals within the scope of the 5-Year plans following World War II. In 1951 the Ministry of Health USSR issued instructions dealing with the determination of epidemiological factors and

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USSR

RASHINA, M. G., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 41, No 6, Nov/Dec 72, pp 658-665

measures against malaria to be carried out in connection with the construction of large water reservoirs. As a result of measures applied under the 4th Five-Year Plan (1946-49), which included treatment of buildings with DDT and hexachlorocyclohexane, the incidence of malaria in the USSR was reduced by a factor of four in relation to the pre-war year 1940. Use of effective drugs such as bigumal in addition to the application of insecticides contributed to the reduction of the number of malaria cases in the USSR to 13,034 (0.65 per 10,000 of population) in 1956 and 425 (0.17 per 100,000 of population) in 1960. Studies were carried out on the regional aspects of malaria epidemiology and the results were used in drawing up typical plans for the control of malaria adapted to the regional characteristics in various republics. New chemotherapeutic and chemoprophylactic agents (e.g., quinocide) were tested under different epidemiological conditions. Data on typical conditions with respect to malaria as affected by diverse local landscapes were compiled for many USSR republics and regions. The concept of chronic malaria was rejected. Work was conducted to determine the extent of restoration of the numbers of Anopheles mosquitoes of different species after the use of persistent insecticides had been discontinued. At present considerable attention is being paid to the prevention of the importation of malaria from abroad by sailors, travelers,

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USSR

RASHINA, M. G., et al, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni,
Vol 41, No 6, Nov/Dec 72, pp 658-665

etc. In a number of Southern regions of the USSR a considerable danger of renewed development of foci of malaria infection exists; particular vigilance is required there to prevent the development of such foci.

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USSR

UDC 616.993.162-022.39-034.47-036.8

SERGIYEV, P. G., REYSLEKHEM, R. I., MOSHKOVSKIY, Sh. D., DEMINA, N. A.,
KELLINA, O. I., SHUYKINA, E. Ye., SERGIYEV, V. P., DUKHANINA, N. N., TRIYERS,
I. I., SHCHERBAKOV, V. A., YARUKHANOV, M. A., USKOV, N. Ye., LOSIKOV, I. N.,
and NEDOSPELOVA, Ye. I., Institute of Medical Parasitology and Tropical Medicine
imeni Ye I. Martynovskiy, Ministry of Health USSR, Moscow

"Results of Mass Vaccinations against Zoonotic Cutaneous Leishmaniasis"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 5,
Sep/Oct 70, pp 541-551

Abstract: Preventive mass vaccinations with a virulent strain of Leishmania tropica major were found to give reliable protection against cutaneous leishmaniasis. Only virulent strains can be used for vaccination. The degree of inoculation with such strains is almost 100%, the inoculative process having, as a rule, a favorable effect. The maximum size of the vaccination lesion does not exceed 2 cm in diameter in 3/4 of the subjects vaccinated. In practically all cases, the process does not last more than 5-6 months. Morbidity occurred in the group vaccinated with the low-virulence strain, among those without lesions, and among those whose lesions were less than 0.5 cm in diameter.

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USSR

SERGIYEV, P. G., et al., Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 5, Sep/Oct 70, pp 541-551

Secondary pyococcal infections represented the only complications observed; allergic exanthem was noted occasionally. In order to prevent local and general allergic reactions after vaccination, it is necessary to exclude persons who have had cutaneous leishmaniasis. If past disease cannot be revealed by means of anamnesis or medical examination, the intracutaneous leishmanin test is recommended. The level of the virulence in inoculative strains should be periodically tested, since insignificant initial virulence or its weakening during culturing make a given strain unfit for preparation of inoculum.

2/2

USSR

UDC 911.3:616.936(47+57)

RASHINA, M. G., SARIKYAN, S. Ya., DUKHANINA, N. N., PROKOPENKO, L. I.,
LYSENKO, A. Ya., and ZHUKOVA, T. A.

"Results of the Anti-Malaria Campaign in the USSR"

V sb. Vopr. med. parazitol. (Problems of Medical Parasitology -- collection
of works), Moscow, 1970, pp 6-30 (from RZh-Meditsinskaya Geografiya, No 2,
Feb 71, Abstract No 2.36.82, by A. Belyaev)

Translation: In 1967, 91 malaria foci were registered in the USSR (these
are locations where 1 local or imported case was reported), among these
were six active residual points, seven inactive residual points, 47 new
potential points, four new active points, and 16 foci in large cities where
transmission is impossible. The number of brought-in cases increases with
each year. In 1959, they amounted to 0.7% of the total number of cases,
in 1963 they were 45.5%, in 1966 59.5%, in 1967, 60.2%. Malaria was brought
in from 56 countries, among them 36 African countries, 16 Southeast Asian
countries and four Latin American countries. Tropical malaria predominated.
Because of the long duration of 4-day malaria, cases of this form continue
to appear (154 cases during 1958-1966).

USSR

UDC 911.3.616.936(47 57)

DUKHANINA, N. N., SARIKYAN, S. Ya., ZHUKOVA, T. A., and BANDIN, A. I.

"Characteristics of Malaria Foci During the Final Period of Its Elimination in the USSR"

V sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med. parazitol. i tropich. med., 1970 (Proceedings of the Scientific Conference Commemorating the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine, 1970 -- collection of works), Moscow, 1970, pp 14-16 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.129 by V. Maslovskaya)

Translation: Cases of malaria brought into the country from abroad are most often recorded in the central zone and in the south RSFSR. Isolated residual foci persist in only a few rayons of the Azerbaydzhan, Georgian, Uzbek and Tadzhik SSRS, where 5-7 parasite life cycles are possible per season. In areas with residual foci, the vectors were Anopheles m. maculipennis, A. m. sacharovi, A. superpictus, and A. pulcherrimus. New foci almost always appeared only where residual foci remained or in adjacent regions, or in areas associated through population migration. Only five populated centers had local cases of three-day malaria following return
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USSR

DUKHANINA, N. N., et al, V sb. Materialy Nauchn. konferentsii, posvyashch. 50-letiyu In-ta med. parazitol. i tropich. med., 1970 (Proceedings of the Scientific Conference Commemorating the 50th Anniversary of the Institute of Medical Parasitology and Tropical Medicine, 1970 -- collection of works), Moscow, 1970, pp 14-16 (from RZh-36. Meditsinskaya Geografiya, No 1, Jan 71, Abstract No 1.36.129 by V. Maslovskaya)

of people from abroad; this is the only evidence that the reappearance of the disease is related to malaria brought in from abroad.

USSR

UDC 616.936.2-036.3"405"-036.2(47)

DUKHANINA, N. N., and SPUDIS, V. K., Institute of Medical Parasitology and Tropical Medicine imeni Ye. I. Martynovskiy, Ministry of Health USSR, and Institute of Medical Parasitology, Ministry of Health RSFSR, Rostov-on-Don

"Is Tertian Malaria with a Long Incubation Period Now Present in the USSR"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, Vol 39, No 4, Jul/Aug 70, pp 468-472

Abstract: An epidemiological investigation revealed that 69 new cases of tertian malaria with a long incubation period were reported between 1961 and 1969 in various parts of the USSR (27 in the RSFSR and 42 in the Kazakh, Azerbaydzhan, Tadzhik, Uzbek, and Georgian Republics). All of the cases were detected between January and July, the usual time for manifestation of malaria with a prolonged incubation period. The disease was found in regions where a prolonged incubation period is predominant (north), in regions where a short incubation period is usual (south), and in regions where both types are evenly distributed (central area). In most of the localities where fresh cases were reported in the spring, either outbreaks of malaria had occurred the year before or the disease was transmitted at a low level with isolated cases involving a short incubation period. The cases arising after a long incubation period are ascribed to infection with *Plasmodium vivax* from residual foci in the southern regions where strains occur that produce malaria after both long and short incubation periods.

1/1

UDC 616.936-07

USSR

DUKHANINA, N. N., SARIKYAN, S. Ya., ZHUKOVA, T. A., KHROMOV, A. S., and
ALEKSEYEVA, Z. M., Institute of Medical Parasitology and Tropical Medicine
imeni Ye. I. Martsinovskiy, Ministry of Health USSR

"Detection of Malaria Cases in the USSR Between 1967 and 1970"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyye Bolezni, No 3, 1972,
pp 319-323

Abstract: Many malaria cases are not detected early due to some laxness in the system induced by the virtual eradication of the disease and by the inconvenience and costliness of running mass screening tests. Study of two groups of malaria patients and parasite carriers - local residents, including those who contracted malaria after receiving blood transfusions, and Soviet citizens returning from trips to Asia and Southeast Asia and foreign nationals - showed that the disease was not detected in most of the local residents until they sought care in a medical facility, only 40% (out of 234) doing so 1 to 5 days after the onset. The disease was detected earlier in the second group, mostly students, because they tended to visit a physician promptly. Some delays were occasioned by an absence of symptoms for a long time (6 to 12 months) owing to the protracted latent period of the causative agent.

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- 20 -

1/2 017 UNCLASSIFIED PROCESSING DATE--300CT7
TITLE--USE OF A ROTATING RING DISK ELECTRODE METHOD TO STUDY THE CATHODIC
REDUCTION OF OXYGEN IN DIMETHYLFORMAMIDE SOLUTIONS -U-
AUTHOR--(04)--NEKRASOV, L.N., DUKHANOVA, L.A., DUBROVINA, N.I., VYKHODTSEVA
L.N.
COUNTRY OF INFO--USSR
SOURCE--ELEKTRIKHIMIYA 1970, 6(3), 388-90
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ELECTROLYTIC REDUCTION, OXYGEN, FORMIC ACID, AMIDE, GOLD,
METAL ELECTRODE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--2000/0653

STEP NO--UR/0364/70/006/003/0388/0390

CIRC ACCESSION NO--AP0124325

UNCLASSIFIED

PROCESSING DATE--30OCT7

UNCLASSIFIED

2/2 017

CIRC ACCESSION NO--AP0124325
ABSTRACT/EXTRACT--(U) GP-O-

ABSTRACT. THE PROCESS OF O ELECTROREDN. IN APROTIC MEDIUM WAS STUDIED BY USING THE EXAMPLE OF CATHODIC O REDN. IN HCONME SUB2 SGLNS. NAD A ROTATING RING DISK ELECTRODE AND AMALGAMATED AU. THE SUPPORTING ELECTROLYTES WERE THE ANHYD. SALT ET SUB4 NCLO SUB4 AT A CONCN. OF 0.1N AS WELL AS NH SUB4 NO SUB3 AT A CONCN. OF 0.5N. THE POLARIZATION CURVE OF O ELECTROREDN. SHOWED 2 WAVES OF SIMILAR HEIGHT, EACH CORRESPONDING TO THE ASSOEN. OF 1 ELECTRON. THE INITIAL STAGE OF THE REACTION INVOLVED THE FORMATION OF A RELATIVELY STABLE MO. O SUB2 PRIME NEGATIVE WITH SIMILAR TO 100PERCENT YIELD. THE NATURE OF PROCESSES IN THE RANGE OF THE 2ND WAVE, I.E. IN THE 2ND PHASE OF THE O REDN., WAS NOT DETD. COMPLETELY AND NEEDS ADDNL. STUDIES.
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 669.189:621.746.7.001

BORISOV, V. T., VINOGRADOV, V. V., ~~DUKHIN, A. I.~~, MANOKHIN, A. I.,
MATVEYEV, YU. YE., SOKOLOV, L. A. and SHISHKOV, V. T., (Moscow)

"Applicability of the Quasi-Equilibrium Two-Phase Zone Theory to the
Description of Ingot Crystallization"

Moscow, Izvestiya Akademii nauk SSSR, Metally, no 6, Nov-Dec 71, pp 104-109

Abstract: Increasing the requirements on metal quality necessitates more intimate knowledge and in-depth analysis of the fine points of alloy crystallization phenomena. Noteworthy, in this case, is the study of the quasi-equilibrium two-phase zone of an alloy -- a region in which thermal, diffusion, and other processes accompanying the formation of the ingot's structure take place. This study is an attempt to test the applicability of the theory to computer analysis of the crystallization of a metal ingot. Described is a crystallizer designed for the study of thermal conditions in the two-phase zone of an ingot for crystallization at both low and high cooling rates. A mathematical arrangement is proposed characterizing a crystallizing ingot in terms of the new theory. The correlation of the theoretical results with the experimental data indicates that the proposed

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USSR

BORISOV, V. T., et al, Izvestiya Akademii nauk SSSR, Metally, no 6,
Nov-Dec 71, pp 104-109

mathematical model provides both qualitative and quantitative patterns of
the thermal and other real conditions of ingot crystallization.
(2 illustrations, 13 bibliographic references).

2/2

Acc. Nr: **AP0036181**

Ref. Code: UR 0069

PRIMARY SOURCE: Kolloidnyy Zhurnal, 1970, Vol 32, Nr 1,

pp 117-123

**POLARIZATION THEORY OF THE DIFFUSE PART OF A THIN DOUBLE LAYER
AT A SPHERICAL PARTICLE IN ALTERNATING ELECTRIC FIELD**

V. N. Shilov; S. S. Dubinin

Summary

In the range of not too high frequencies the polarization theory of a thin double layer at a particle in alternating electric field can be developed on the basis of the method used earlier in the steady-state polarization theory. A formula for the induced dipole moment of the particle has been derived. The frequency dependence of the double layer polarization is determined by the ions diffusion and thus an essential change in the dipole moment is observed at the frequency of the order of D_e/a^2 (D_e — effective ion diffusivity, a — particle radius).

D.H.

21

REEL/FRA
19721000

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THEORY OF THE DOUBLE LAYER POLARIZATION AND ITS EFFECT ON THE
ELECTROKINETIC AND ELECTROOPTICAL PHENOMENA AS WELL AS ON THE DIELECTRIC
AUTHOR--(02)-DUKHIN, S.S., SEMENIKHIN, N.M.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 3, PP 360-368
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PARTICLE MOTION, ELECTRIC POLARIZATION, ION EXCHANGE,
ELECTROPHORESIS
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/1696 STEP NO--UR/0069/70/032/003/0360/0368
CIRC ACCESSION NO--AP0118674
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0118674

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TANGENTIAL ION TRANSFER IN THE LAYER BETWEEN THE SLIP PLANE AND THE PARTICLE SURFACE AFFECTS THE DOUBLE LAYER POLARIZATION AND HENCE THE ELECTROPHORETIC MOBILITY. TAKING ACCOUNTS OF THIS EFFECT IN TERMS OF THE POLARIZATION THEORY OF A THIN DOUBLE LAYER LEADS TO ELECTROPHORESIS AND DIFFUSIOPHORESIS FORMULAE DEPENDING NOT ONLY ON THE ELECTROKINETIC, BUT ALSO ON THE STERN POTENTIAL. MEASUREMENTS OF THE ELECTROPHORETIC AND DIFFUSIOPHORETIC MOBILITIES ON THE SAME SYSTEM, OR OF ELECTROPHORETIC MOBILITY ON THREE FRACTIONS OF SPHERICAL PARTICLES WITH ELECTRICALLY IDENTICAL SURFACES, GIVEN INFORMATION ON BOTH ELECTROKINETIC AND STERN POTENTIALS.
FACILITY: INST. KOLLOIDNOY KHIMII I KHIMII VODY AN USSR, KIEV.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--THEORY OF LOW FREQUENCY DISPERSION OF THE DIELECTRIC PERMITTIVITY
OF SPHERICAL COLLOIDAL PARTICLES SUSPENSIONS CAUSED BY POLARIZATION OF
AUTHOR--(02)-SHILOV, V.N., DUKHIN, S.S.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2, PP 293-300
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--PERMITTIVITY, PIELECTRIC PROPERTY, CHEMICAL DISPERSION,
COLLOID, CHEMICAL SUSPENSION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1991/0133 STEP NO--UR/0069/70/032/002/0293/0300
CIRC ACCESSION NO--AP0110099
UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0110099

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE BASIS OF THE POLARIZATION THEORY OF THE DIFFUSE SIDE OF A THIN ELECTRIC DOUBLE LAYER IN A. C. FIELD, DEVELOPED IN THE PRECEDING PAPER, A FORMULA HAS BEEN DERIVED FOR THE LOW FREQUENCY DISPERSION OF THE DIELECTRIC PERMITTIVITY (DP) OF DILUTED COLLOID SOLUTIONS. VERY HIGH DP VALUES OBSERVED CAN BE EXPLAINED WITHOUT RECOURSE TO SCHWARZ'S HYPOTHESIS AS BEING DUE TO POLARIZATION OF THE DIFFUSE IONIC ATMOSPHERE OF THE PARTICLES. AFTER CORRECTION OF AN ERROR IN SCHWARTZ'S THEORY, DP CALCULATED ON THE BASIS OF SCHWARZ'S MODEL PROVED TO BE BY AN ORDER OF MAGNITUDE LESS THAN IN EXPERIMENT. INASMUCH AS THE DEVELOPED THEORY, WHICH TAKES ACCOUNT ONLY OF THE DIFFUSE ATMOSPHERE POLARIZATION, AGREES SATISFACTORILY WITH EXPERIMENT, IT IS SUGGESTED THAT THE LOW FREQUENCY DISPERSION MEASUREMENTS SHOULD BE USED FOR THE STUDY OF THE DOUBLE LAYER AROUND THE PARTICLES, IN PARTICULAR FOR THE DETERMINATION OF THE STERN POTENTIAL.

UNCLASSIFIED

USSR

UDC 612.766.2.13

HUREVICH, M. I., and DUKHIN, YE. O., Institute of Physiology imeni
O. O. Bogomolets, Academy of Sciences Ukrainian SSR, Kiev

"The Effect of Electrostimulation of Hemodynamic Disturbances in the Case of
Prolonged Hypokinesia"

Kiev, Fiziologichnyy Zhurnal, Vol 19, No 1, 1973, pp 45-51

Abstract: Experiments were carried out with healthy individuals 24-34 years old subjected to bed regime for 30 days (one group) and for 10 days (second group) with the lower part of the body completely immobilized. Some individuals from both groups were subjected to electrical stimulation (muscles of back, abdomen, thigh, shank) twice a day for 45 min each time. The rheographic method was used to record shifts in hemodynamic indicators. In individuals not subjected to electrical stimulation, BBV decreased on the second day of bed regime, and reached 36% in 28-30 days. Increase in HBF was by 21.2% in 10-12 days and it increased by 23 beats (from 98 at the start) 28-30 days later. MBV decreased by 8.6% during the first two days of experiment, followed by tachycardia, and the second increase by 14.6% in 28-30 days. Individuals who received daily electrical stimulation of muscles showed decrease of BSV on 10-12 day of hypokinesia and 17.4% on 28-30th day. Changes in the HBF were observed only at the end of the bed regime period (by 18%). Dynamics of shifts
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USSR

HUREVICH, M. I. and DUKHIN, YE. O., Fiziologichnyy Zhurnal, Vol 19, No 1, 1973, pp 45-51

in MBV in this case were determined by different relations between BBV and HBF. All hemodynamic indicators were practically normal on 7th day after the termination of hypokinesia in all individuals receiving electrical stimulation. Electrical stimulation in all cases was positive and resembled the training effect. It weakened significantly the negative effect of prolonged hypokinesia on hemodynamic indicators. Changes in MBV were related primarily to HBF in the case of electrical stimulation. A direct effect of electrical stimulation on the cardiovascular system differed during different hypokinesia periods. The most noticeable effect was observed between 10-13th day. Thus, electrical stimulation during stable hypokinesia provides a definite protection against the development of orthostatic disturbances.

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USSR

UDC 536.63;546.77;546.78;537.311.31

DUKHMER, I. Ya., LEBEDEV, S. V.

"Study of Certain Heat Physical Properties of Tungsten and Molybdenum Near the Melting Point by the Electrical Explosion Method"

Teplofizika Vysokikh Temperatur, Vol 9, No 5, 1971, pp 929-933.

Abstract: Results are presented from studies of the temperature dependence of the heat capacity of molybdenum in the solid and liquid states, as well as the temperature dependence of the resistivity of molybdenum and tungsten. The measurements were performed during heating of metal wires by high density current.

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Acc. Nr.

AP0055624

Abstracting Service:

CHEMICAL ABST.

Ref. Code

UR 0460

112019f Kinetic principles of the bulk polymerization of styrene in the presence of trifluoroacetic acid. Nikolaev, A. F.; Belogorodskaya, K. V.; Dukhnenko, E. M.; Popova, L. V.; Kerakash, A. F. (Leningrad. Tekhnol. Inst. im. Lensovet, Leningrad, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 24-7 (Russ). The polymn. rate (V) of $\text{PhCH}=\text{CH}_2$ (I) in PhEt contg. $\text{CF}_3\text{CO}_2\text{H}$ (II) as the catalyst obeys the relation $V = k[\text{concn. II}]^a[\text{concn. I}]^b$ (k is a const.; temp., k in $\text{l. mole}^{-1} \text{sec}^{-1}$, a , b , given): 0° , 9.7×10^{-3} , 1.5, 1.9; -10° , 3.2×10^{-3} , 1.2, 2.8; 20° , 18.7×10^{-3} , 2.2, 1.4. The activation energy is 9.6 kcal/mole. The decrease of a with temp. shows that the solvation of polystyrene ions with II decreases with the temp. The mol. wt. of polystyrene increases with the II concn. CPJR -

REEL/FRAME

19840926

MO046410

UR 0482

Soviet Inventions Illustrated, Section II Electrical, Derwent,

242490 INTEGRAL CONVERTER which has wider applications in computers and calculators technology has the outputs of the higher register classes connected to the primary inputs of the coincidence circuit whose secondary inputs are connected to the computer outputs and the input is connected with the input of the "prohibition" circuit. Said input is also connected to an input of a group of valves, whose secondary inputs are connected to the lower register classes.

26.12.67 as 1206318/18-24. E.I. DUKHNICH & V.E. MELNIK. TAGANROG RADIOTECHNICAL INST. (5.9.69)
Bul 15/25.4.69. Class 42m³. Int.Cl.G 06f.

AUTHORS: Dukhnich, Ye. I.; Mel'nik. V. Ye.
Taganrogskiy Radiotekhnicheskiy Institut

19781610

USSR

UDC 621.785.532:669.1'295

BELOTSKIY, A. V., LUKHOTA, P. V., and PERMYAKOV, V. G., Kiev
Polytechnic Institute

"Phase and Structural Changes in Nitriding of Iron Alloyed With
Titanium"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8,
1971, pp 40-42

Abstract: The authors studied iron-titanium alloys containing 0.35, 0.95, 1.32, 1.96, 2.39, and 2.83 wt. percent Ti. The alloys were smelted in an induction furnace in an argon atmosphere. Following homogenizing annealing, the alloys underwent forging, then drawing or cold rolling. Before nitriding, the specimens were annealed at 950° C for five hours to obtain a coarse-grained structure facilitating microstructural observations of diffusion layer variations. The alloys were nitrided at temperatures up to 500° C directly in an X-ray chamber, or at 500, 550, and 600° C

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USSR

BELOTSKIY, A. V., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 40-42

in a laboratory furnace in a dissociated ammonia environment with a 10-40 percent dissociation degree and a holding time of up to six hours. Changes in the phase composition and structure of the diffusion layers were monitored by the methods of high-temperature roentgenography, microstructural analysis, and microhardness.

The results indicate that the surface hardening of iron-titanium alloys by nitriding should be done at a titanium concentration not exceeding 1.3-1.5 percent. Obtained in the process are diffusion layers with high microhardness and good cohesion with the base. In alloys with a higher titanium content the amount of nitrogen that dissolves during nitriding is such that nitrogen phase formation is accompanied by a sharp increase in volume, which embrittles the layer and causes cracking.

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1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--STRUCTURAL MECHANICAL PROPERTIES OF CHLOROPRENE LATEX -U-
AUTHOR-(03)-DUKHOTA, V.F., KOTOV, M.P., KUTIN, V.A.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHED. ZAVED., TEKHNOL. LEGK. PROM. 1970, (2), 42-7
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--CHLOROPRENE, LATEX, THIXOTROPE, VISCOUS FLOW, VISCOMETER,
THERMAL EFFECT, SURFACE ACTIVE AGENT/(U)OPIO SURFACE ACTIVE AGENT
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3006/1120 STEP NO--UR/0323/70/000/002/0042/0047
CIRC ACCESSION NO--AT0134806
UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AT0134806

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THE CONDITIONS OF MECH. DECOMPN. AND THIXOTROPIC RECONSTRUCTION OF CHLOROPRENE LATEX WERE INVESTIGATED. RHEOL. STUDIES OF SOLNS. OF FRESH AND AGED LATEX WERE CARRIED OUT AT 25DEGREES BY MEANS OF A HOEPPLER VISCOMETER. THE EFFECTIVE VISCOSITY OF THE SYSTEMS DIMINISHED CONSIDERABLY WITH INCREASED TEMP. THE DEPENDENCE OF THE VISCOSITY OF THE LATEX ON THE QUANTITY OF THE SURFACTANT OP,10 INTRODUCED INTO THE SYSTEM WAS ALSO STUDIED. FACILITY: KIEV. TEKHNOL. INST. LEGK. PROM., KIEV, USSR.

UNCLASSIFIED

1/2 015
UNCLASSIFIED
TITLE--THERMOCOUPLE FOR MEASURING LOW TEMPERATURES -U- PROCESSING DATE--27NOV70
AUTHOR--(03)-ALEKSAKHIN, I.A., DUKHOVLINOVA, N.D., MEDVEDEVA, L.A.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 267,121
REFERENCE--OTKRYTIYA, IZDBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70
SUBJECT AREAS--METHODS AND EQUIPMENT
TOPIC TAGS--PATENT, THERMOCOUPLE, COPPER CONTAINING ALLOY, IRON CONTAINING ALLOY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3003/1776 STEP NO--UR/0482/70/000/000/0000/0000
CIRC ACCESSION NO--AA0130609
UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0130509

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. THERMOCOUPLES FOR MEASURING LOW
TEMPS. CONTAIN A POS. CU THERMOCOUPLE LEG. TO EXPAND THE RANGE OF
MEASURABLE TEMPS. UP TO 300DEGREESK, THE NEG. THERMOCOUPLE LEG WAS MADE
FROM AN ALLOY CU 0.01-0.5PERCENT FE ALLOY.

UNCLASSIFIED

USSR

UDC 612.017.12:612.461.269.014.482

RUBACHEV, I. G., STREL'NIKOV, V. A., FEDOROVA, T. A., KLEMPARSKAYA, N. N.,
DUKHOVNAYA, E. M., and FURAYEVA, L. P.

"The Effects of Irradiation on the Urinary Excretion of Thymidine and Beta-Aminoisobutyric Acid in Immunized Rats"

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70,
p 142

Translation: Whole-body irradiation of animals induces massive decomposition of desoxynucleoproteins and liberation and depolymerization of DNA in the cells of organs sensitive to irradiation. At the same time, there is an increased urinary excretion of desoxynucleosides -- desoxycytidine and thymidine, and of the products of thymidine catabolism -- beta-aminoisobutyric acid. A study of the dynamics of the excretion of these substances makes it possible to elucidate the nature of DNA metabolism in the body during the 1st day after irradiation and, during the subsequent period, the nature of restoration processes taking place in the rapidly regenerating tissues.

In a previous study, we established that after active immunization, rats have an increased urinary excretion of beta-aminoisobutyric acid, especially during

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USSR

RUBACHEV, I. G., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, Vol 10, Oct 70, p 142

the period of maximum concentration of agglutinins in peripheral blood, and a decreased concentration of plasmocytes in the lymph nodes. In this investigation, we studied the level of DNA decomposition (based on the urinary excretion of thymidine and beta-aminoisobutyric acid) and the dynamics of the formation of antibodies (according to the titers of agglutinins) in vaccinated and irradiated rats. The animals received a single dose of whole-body irradiation (500 r) from the EEGO-2 generator (power, 640 r/min; gamma rays, Co⁶⁰) 48 hours prior to and 48 hours after vaccination. Immunization was performed with Breslau bacilli killed with heat, which were administered intramuscularly in a dose of 1 billion microbial cells in 0.5 ml. Irradiation prior to and after immunization equally suppressed the formation of agglutinins (approximately three times). During the 1st day after irradiation, the level of thymidine excretion in controls, and immunized animals also increased to an equal degree (5 and 2.5-3 times, respectively). This fact and the equivalent degree of inhibition of antibody formation indicated that immunization performed 48 hours prior to irradiation exerted no protective effects on the

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USSR

RUBACHEV, I. G., et al, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii,
Vol 10, Oct 70, p 142

decomposition of lymphoid tissue during the 1st day after irradiation or on its ability to produce antibodies. Subsequently, the level of thymidine excretion by control animals and those of the experimental group differed considerably from the standpoint of excretion of beta-aminoisobutyric acid (these differences were insignificant). During the subsequent period (up to 11 days), irradiated control animals displayed a considerable decrease (3-5 times) in thymidine excretion as compared to the initial level. Normal or above-normal thymidine excretion was observed on the 7th-11th days after immunization in animals immunized after irradiation, and on the 2nd-6th days after irradiation or on the 4th-8th days after immunization in animals immunized prior to irradiation. This development may be associated with regenerative processes which apparently begin earlier and proceed at a more rapid rate.

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USSR

UDC 617-001.28-07:616.633.963.074

FEDOROVA, T. A., RUBACHEV, P. G., and DUKHOVNAYA, E. M.

"Specificity of Nucleosidura in the Irradiated Organism"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 10, Oct 70, pp 42-44

Abstract: The excretion of thymidine and beta-aminoisobutyric acid in the urine was studied in rats exposed to various agents capable of destroying cells including irradiation (Co60), third-degree burns, immunization with Breslau paratyphoid vaccine, and hydrocortisone. All four agents increased the excretion of thymidine and beta-aminoisobutyric acid, but not to the same degree or at the same time. The greatest and most rapid increase was produced by irradiation. The effects decreased for hydrocortisone, burns, and immunization, in that order. After irradiation, for example, the excretion of thymidine reached a peak within 24 hours, exceeding the original level by a factor of 5-6. After third-degree burns, it reached a peak on the 11th day and exceeded the original level by a factor of 2.6. All four agents increased the excretion of beta-aminoisobutyric acid in the urine to approximately the same degree.

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- 28 -

DUKHOVNA YA, O. L.

SO: JPRS 54514
18 MAR 71

ALLC: 616-036.856.1770

2541658.386.3.07

INSTRUCTION ON EXPERT MEDICAL EVALUATION OF DISABILITY AT MEDICAL INSTITUTES FOR THE ADVANCED TRAINING OF PHYSICIANS

Article by Yu. D. Abatskaya, D. I. Bikhomayeva, Yu. G. Gazonova, Chair of Expertise
Medical Disability Certification (Issued by docent Yu. D. Abatskaya), General
Institute for the Advanced Training of Physicians (vice-chancellor) and D. Kono-
valov, Moscow, Sovetskoye Zdravookhraneniye, Russian, No 10, 1971, pp. 45-51
0000-53

It is of great national importance to improve the quality of medical evaluation of disability under present conditions. The success of work pertaining to prevention of disease and disability, of rational spending of social insurance funds, and of preserving skilled personnel in industry or practice has shown that physicians of temporary and lasting disability. In evaluation of disability that physicians often make many errors in making expert referrals to VTEK (Medical Commission). For example, in 1969, 10.2 percent of the patients were referred to VTEK (Medical Commission) and in some cases were determined to be disabled, and in some cases were determined to be disabled.

The achievements of Soviet public health care are closely linked with the comprehensive and proper training of students at medical institutes. At present, one of the forms of advanced training of physicians at their institutes are seminars for the professors and instructors of medical institutes, for the training of instructors as a part of the curriculum since 1965. We know that qualified with organization, methods of conducting, and effectiveness of such seminars (M.D. Koryagina; M.V. Murav'ev and L.A. Savelyeva; V.S. Pogorelov and A. Shul'ts; V. B. Mitrovolchik; V.N. Butov; N.Ye. Sukhtvetov; A.P. Spornitskiy and N.B. Shul'ts; N.D. Krasnov et al.; B.Ye. Peterson et al., 1970, and others).

A very special place belongs to seminars at higher medical institutes (A. N. ... and A. N. ...).

A very special place belongs to seminars and symposiums for instructors at higher medical institutions and institutes for the advanced training of physicians (M.D. Kovrigina, 1968) at our institute. The WHO pays much attention to the training of instructors who teach future medicals, so that this was discussed extensively in 1969, in Geneva, at a meeting of WHO representatives (V.N. Butov, 1970).

Receivers and Transmitters

USSR

UDC 621.376.4:621.394.62

DUKHOVNER, A. N., and RESHETOV, L. A.

"Apparatus for Phase Difference Signal Reception"

Moscow, Otkrytiya izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 52, Author Certificate No 258396 Class 21a⁴.

Abstract: This author's certificate introduces an apparatus for phase difference signal reception using a coherent method of reception. In order to eliminate the effect of random jump-like signal phase variation by using a code, in which the alphabet element is characterized by one pulse and one interval, two differentiating circuits are connected to the anode and cathode of the pulse separator tube after a detector. The circuits outputs are coupled to opposing diodes, while the pulse differentiating circuit of positive polarity contains the pulse duration delay line.

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Acc. Nr.: AA0040448

Ref. Code: UR 0482

USSR

UDC 621.376.4:621.394.62 JPRS 58248

DIKHOVNER, A. N., and RESHETOV, L. A.

"Apparatus for Phase Difference Signal Reception"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 1, 1970, p 52, Author Certificate No 258396 Class 21a⁴.

Abstract: This author's certificate introduces an apparatus for phase difference signal reception using a coherent method of reception. In order to eliminate the effect of random jump-like signal phase variation by using a code, in which the alphabet element is characterized by one pulse and one interval, two differentiating circuits are connected to the anode and cathode of the pulse separator tube after a detector. The circuits outputs are coupled to opposing diodes, while the pulse differentiating circuit of positive polarity contains the pulse duration delay line.

Reel/Frame

19741940

USSR

UDC: 621.378.545.4

VOLOSOV, V. D., DUKHOVNIY, A. M., KRYLOV, V. N., SOKOLOVA, T. V.

"On Converting Radiation From a Laser in the Free Emission Mode to the Second Harmonic"

Moscow, Kvantovaya Elektronika, Sbornik Statey, No 2(8), 1972, pp 101-102

Abstract: An investigation was made into the energy dependence of the coefficient of conversion of radiation from a neodymium laser operating in the free emission mode to the second harmonic. When beam divergence is 20" and energy density is 75 J/cm², a coefficient of conversion of 0.105% is obtained. The destruction threshold for a KDP crystal was 1100 J/cm². Three illustrations, bibliography of two titles.

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USSR

UDC 621.375.82

VOLOSOV, V. D., ~~DUKHOVNIY, A. M.~~ KRYLOV, V. N., and SOKOLOVA, T. V.

"On the Transformation of Laser Radiation in a Free Oscillation Mode to the Second Harmonic"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2, Moscow, "Sov. radio," 1972, pp 101-102 (from RZh-Fizika, No 10, Oct 72, Abstract No 10D871)

Translation: The energy dependence of the transformation coefficient of the radiation of a Nd laser operating in a free oscillation mode was investigated. A transformation coefficient of 0.105% was obtained for a divergence of 20" and an energy density of 75 joule/cm². An energy density of 1100 joule/cm² was the breakdown threshold of the KDP crystal. Authors abstract.

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1/2 024 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--NEUTRON DIFFRACTION STUDY OF CA SUB3 FE SUB3.5 V SUB1.5 O SUB12
FERRITE GARNET -U-
AUTHOR-(03)-DUKHOVSKAYA, E.L., LIPIN, YU.V., MOZIK, YU.Z.
COUNTRY OF INFO--USSR
SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER. 1970, (2),
124-6
DATE PUBLISHED-----70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--NEUTRON DIFFRACTION, GARNET, FERRITE, VANADIUM, ION
DISTRIBUTION, MAGNETIZATION, CRYSTAL LATTICE STRUCTURE, TEMPERATURE
DEPENDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/1265

STEP NO--UR/0371/70/000/002/0124/0126

CIRC ACCESSION NO--AP0136671

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0136671

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. NEUTRON DIFFRACTION WAS USED TO SHOW THAT IN THIS FERRITE GARNET, THE IONS OF Y ARE STATISTICALLY DISTRIBUTED OVER TETRAHEDRAL SITES, AND THE PARAMETERS OF THE O IONS DIFFER FROM THOSE IN Y SUB3 F SUB5 O SUB12. MEASURED WERE THE PARTIAL MAGNETIZATION FACTORS FOR OCTAHEDRAL AND TETRAHEDRAL SUBLATTICES AT ROOM TEMP. AND THE TEMP. DEPENDENCE OF THE MAGNETIC CONSTITUENT OF THE (220) REFLECTION FROM MINUS 120DEGREES TO THE CURIE POINT. FACILITY: INST. FIZ., RIGA, USSR.

UNCLASSIFIED

USSR

BALOSHIN, O. N., VLADIMIRSKIY, V. V., ~~DUKHOVSKOY, I. A.~~, KISHKURNO, V. V.,
KRUTENKOVA, A. P., KULIKOV, V. V., NIKOLAYEVSKIY, YE. S.,
PETRUKHIN, V. N., RADKEVICH, I. A., and FEDORETS, V. S., Institute of
Theoretical and Experimental Physics of the State Committee for the Use of
Atomic Energy

"Study of the Reaction $\pi^- p \rightarrow pX^-$ at a Momentum of 3.25 GeV/c With
a High Momentum Transfer"

Moscow, Yadernaya Fizika, Vol 14, No 1, Jul 71, pp 131-133

Abstract: The authors investigate the spectrum of missing masses of a
proton in the reaction $\pi^- p \rightarrow pX^-$ for high transfer momentums using
a track spectrometer with optical spark chambers in a magnetic field. They
found the momentum of the primary π^- mesons to be 3.25 GeV/c, and they
measured the differential cross section of the formation of the ℓ^- meson
in the range of angles $-1 \leq \cos \theta^* \leq -0.0005$, which was found to be
equal to 28.2 ± 9.8 $\mu\text{barn/sterad}$. Figure 1 shows the spectrum of the
missing masses in this reaction for a momentum of the π^- meson of 3.25
GeV/c. Figure 2 shows the cross section of the creation of the ℓ^- meson
backwards in the reaction $\pi^- p \rightarrow p\ell^-$ as a function of the momentum
of the π^- mesons. The article contains 2 figures and 5 bibliographic
entries. 1/1

USSR

UDC: 621.396.69:621.319.4

DUKMASOV, V. B., YEKIMOV, V. V., KUZ'MIN, G. M., PUGOVKIN, P. R.

"An Electromagnetic Powder Clutch as a Braking Element in Capacitor Winding Lathes"

Elektron. tekhnika. Nauchno-tekhn. sb. tekhnol. i organiz. proiz-va (Electronic Technology. Scientific and Technical Collection. Technology and Organization of Production), 1970, vyp. 4 (36), pp 54-60 (from REh-Radiotekhnika, No 12, Dec 70, Abstract No 12V364)

Translation: The authors discuss solution of the problem of maintaining constant tension on ribbons when winding sections of radio capacitors by using an electromechanical braking element -- a powder electromagnetic clutch of original design. A basis is given for selection of this type of braking element. A description is given of the design and materials on testing an experimental model of the clutch. Recommendations are given on its use. Resumé.

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1/2 013 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--HYDRODYNAMIC PECULIARITIES OF MICROELECTROPHORESIS AND
ELECTROOSMOSIS IN A. C. FIELD -U-
AUTHOR-(03)-VOROBYEVA, T.A., VLODAVETS, I.N., DUKNIN, S.S.
COUNTRY OF INFO--USSR
SOURCE--KOLLOIDNYY ZHURNAL, 1970, VOL 32, NR 2 PP 189-194
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--ELECTROPHORESIS, ELECTROOSMOSIS, ALTERNATING CURRENT, NAVIER
STOKES EQUATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0395 STEP NO--UR/0069/70/032/002/0139/0194
CIRC ACCESSION NO--AP0113313
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0113313

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN MICROELECTROPHORESIS AND ELECTROOSMOSIS STUDIES IN A. C. FIELDS IT IS NECESSARY TO TAKE INTO ACCOUNT FAST DAMPING OF ELECTROSMOTIC OSCILLATIONS OF THE LIQUID AS THE DISTANCE FROM THE WALLS INCREASES. THE NATURE OF THE DISTRIBUTION CURVES OF THE VELOCITY AMPLITUDES OF ELECTROSMOTIC OSCILLATIONS HAS BEEN CONSIDERED IN A THICK LIQUID LAYER ADJACENT TO THE WALL, IN A WIDE FLAT OPEN, AND IN A FLAT CLOSED, CELLS. THE SOLUTIONS OF HAVIER STOKES EQUATIONS HAVE BEEN FOUND, WHICH SATISFY THE CORRESPONDING BOUNDARY CONDITIONS AND AGREE WELL WITH EXPERIMENT.

UNCLASSIFIED

1/2 026 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EFFECT OF HISTAMINE ON THE IN VIVO FORMATION OF INTERFERON -U-

AUTHOR--DUKS, A.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS 1970, (2), 134-7

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HISTAMINE, FORMALDEHYDE, NEWCASTLE DISEASE VIRUS, INTERFERON,
BIOSYNTHESIS, BLOOD SERUM, SPLEEN, LIVER, LUNG

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0523

STEP NO--UR/0197/70/000/002/0134/0137

CIRC ACCESSION NO--AP0126271

UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126271

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MICE RECEIVING HISTAMINE DIHYDROCHLORIDE (0.2 MG) OR A POLYMER OF N-METHYLHOMOANISYLAMINE AND FORMALDEHYDE (0.1 MG) 1 HR BEFORE OR AFTER INFECTION WITH NEWCASTLE DISEASE VIRUS PRODUCED LOWER TITERS OF INTERFERON IN THEIR SERUM, Spleen, LIVER, AND LUNGS THAN DID CONTROLS. HOWEVER, HISTAMINE DID NOT REDUCE INTERFERON PRODUCTION BY CELL CULTURES. PERHAPS BY DILATING BLOOD VESSELS, HISTAMINE SPEEDS BLOOD FLOW AND ALLOWS FEWER VIRUSES TO INTERACT WITH THE CELLS THAT PRODUCE INTERFERON. FACILITY:
INST. MIKROBIOL. IM. KIRHENSTEINA, RIGA, USSR.

UNCLASSIFIED

USSR

UDC 581.103+577.15

DUL'BINSKAYA, D. A., State Pedagogical Institute, Irkutsk

"Effect of a Constant Magnetic Field on the Growth of Corn Seedlings"

Moscow, Fiziologiya Rasteniy, No 1, 1973, pp 183-186

Abstract: Exposure of corn seeds (Bukovinskaya-3 variety) to a constant magnetic field of 2800 oe for 3 days stimulated the synthesis of proteins and nucleic acids the first 2 days but inhibited it on the third day. The amount of nucleoprotein phosphorus and protein nitrogen was lower in the endosperm of the experimental seeds than in the control, i.e., the magnetic field intensified the hydrolysis of the reserve proteins and nucleic acids in the endosperm, probably because of the higher level of their synthesis in the seedlings. After 3 days' exposure, the rate of biosynthesis in the seedlings was markedly depressed, especially in the stems. The proteins were particularly sensitive to the magnetic field. While the increase in nucleoprotein phosphorus in the roots and stems after 3 days' exposure was twice as large as in the control, the increase in protein nitrogen in the roots was about half that in the control and in the stems the protein content was even less than after 2 days' exposure.

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USSR

DUMAREVSKIY, YU. D., DUL'DIYER, C. N., and PETRUSEVICH, V. A.

"An Optical-Electronic Adder"

Otkrytiya Izobretmeniya Promyshlennye Obraztsy Tovarnyye Znaki, No 35, 1972,
Patent No 359651

Translation: 1. An optical-electronic adder for optical signals, containing a light-controlled source of a voltage of variable amplitude, differing in that in order to simplify the adder and increase reliability and speed, it contains a device for linear scanning of the light beam which is connected to the source of variable-amplitude voltage and beneath which are three photosensors, the second of which is partially covered by the third photosensor connected parallel to the first.

2. An adder conforming to Para 1, differing in that the source of variable-amplitude voltage consists of a film with a photoelectric effect.

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UDC 681.325.65

DUMAREVSKIY, YU. D., DUL'DIYER, V. N. and PETRUSEVICH, V. A.

"Light Beam Control Device"

USSR Authors' Certificate No 309339, Cl. G 02 f 3/00; H 01 j 3/26, filed 6 Jan 70, published 8 Sep 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B152P)

Translation: The device can be used for data processing in computer input and output units, in optoelectronic circuits, as well as for the construction of devices to convert electric signals to light signals. Light beam scanners are known which are made in the form of a capacitor, between whose electrodes is enclosed a layer of a substance which changes transparency under the action of an electric field: for example, a substance possessing the Franz-Keldysh effect. However, the operation of these devices requires external dc and ac voltage sources with an amplitude of ~ 500 v. Despite the small size of the device itself, this results in a large system as a whole (mainly because of the size of the power sources). In addition, such devices cannot provide direct conversion of light amplitude to light beam coordinates, which process is especially important in purely optical data processing devices. To provide the capability of variation in light beam coordinates induced by the action

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DUMAREVSKIY, YU. D., et al., USSR Authors' Certificate No 309339

of a light signal, as well as to eliminate external power sources, reduce the size, and provide high reliability, it is suggested that one of the capacitor electrodes be made of a material possessing the photovoltaic effect and that it be connected to the other electrode through the photovoltage source, which is coupled with the element controlling the photovoltage amplitude. This element can be a light source of variable intensity or a negative-resistance element connected to a control source, which is illuminated in this case by a light of constant intensity.

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1/2 032 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE STRENGTH OF A BRITTLE FIBRE STRAND -U-
AUTHOR--DULEBA, L.
COUNTRY OF INFO--USSR
SOURCE--ARCHIWUM BUADOWY MASZYN, 1970, VOL 17, NR 2, PP 215-222
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--TENSILE STRENGTH, GLASS FIBER, REINFORCED PLASTIC, MATHEMATIC
EXPRESSION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2166 STEP NO--PO/0032/70/017/002/0215/0222
CIRC ACCESSION NO--AP0125748
UNCLASSIFIED